

Claims:

1 1. A system for defining a line of approach, comprising:
2 light sources arranged in an array;
3 means coupled to said light sources for defining a
4 primary field-of-view (FOV) from which all of said light
5 sources are visible wherein less than all of said light
6 sources are visible from positions outside of said primary
7 FOV, said means further dividing said light sources into a
8 plurality of sections with each of said plurality of sections
9 having a portion of said light sources associated therewith;
10 and
11 a controller coupled to said light sources for
12 controlling operation thereof in accordance with cyclical
13 on/off sequences, each of said cyclical on/off sequences
14 being (i) associated with a corresponding one of said
15 plurality of sections, (ii) identical for said portion of
16 said light sources associated with said corresponding one of
17 said plurality of sections, and (iii) unique for each of said
18 plurality of sections, wherein a primary waveform of light
19 energy is defined by said cyclical on/off sequences
20 associated with said plurality of sections and visible from
21 within said primary FOV, and wherein a plurality of secondary
22 waveforms of light energy are defined by said cyclical on/off
23 sequences visible from positions outside of said primary FOV.

1 2. A system as in claim 1 wherein each of said light sources
2 is a light emitting diode (LED).

1 3. A system as in claim 1 wherein said means comprises:
2 a frame supporting said light sources such that said
3 array is a two-dimensional planar array; and
4 at least one dividing wall coupled to and extending
5 from said frame to define said plurality of sections of said
6 light sources.

1 4. A system as in claim 3 wherein each side of each said
2 dividing wall is reflective.

1 5. A system as in claim 1 wherein said means comprises a
2 frame supporting said light sources such that said array is a
3 three-dimensional array.

1 6. A system as in claim 5 wherein said three-dimensional
2 array has a shape selected from the group consisting of dome
3 shapes and pyramid shapes.

1 7. A system as in claim 1 wherein one cycle of each of said
2 cyclical on/off sequences includes a pulse of common
3 duration, and wherein said one cycle associated with each of
4 said plurality of sections is distinguishable by the timing
5 of said pulse within said one cycle.

1 8. A system as in claim 1 wherein one cycle of each of said
2 cyclical on/off sequences includes a pulse, and wherein said
3 one cycle associated with each of said plurality of sections
4 is distinguishable by the duration of said pulse within said
5 one cycle.

1 9. A system as in claim 1 wherein each of said plurality of
2 sections includes a portion of a periphery of said array, and
3 wherein said controller excludes ones of said light sources
4 at said periphery from said cyclical on/off sequences to
5 reduce a cross-sectional area of said primary FOV.

1 10. A system as in claim 1 wherein each of said light
2 sources produces light energy having the same wavelength.

1 11. A system as in claim 1 wherein each of said light
2 sources produces light energy having a wavelength in the
3 range of approximately 390 nanometers to approximately 577

NAVY CASE 84568

PATENT

4

nanometers.

1 12. A system for defining a line of approach, comprising:

2 light sources arranged in an array, each of said light
3 sources producing light energy having the same wavelength
4 when turned on;

5 means coupled to said light sources for defining a
6 primary field-of-view (FOV) from which all of said light
7 sources are visible wherein less than all of said light
8 sources are visible from positions outside of said primary
9 FOV, said means further dividing said light sources into a
10 plurality of sections with each of said plurality of sections
11 having a portion of said light sources associated therewith;

12 each said portion of said light sources associated with
13 one of said plurality of sections forming a radial slice of
14 said array that extends out to a peripheral portion of said
15 array; and

16 a controller coupled to said light sources for
17 controlling operation thereof in accordance with cyclical
18 on/off sequences, each of said cyclical on/off sequences
19 being (i) associated with a corresponding one of said
20 plurality of sections, (ii) identical for said portion of
21 said light sources associated with said corresponding one of
22 said plurality of sections, and (iii) unique for each of said
23 plurality of sections, wherein a primary waveform of light
24 energy is defined by said cyclical on/off sequences

25 associated with said plurality of sections and visible from
26 within said primary FOV, and wherein a plurality of secondary
27 waveforms of light energy are defined by said cyclical on/off
28 sequences visible from positions outside of said primary FOV,
29 said controller excluding ones of said light sources from
30 said cyclical on/off sequences starting at said peripheral
31 portion of said array to reduce a cross-sectional area of
32 said primary FOV.

1 13. A system as in claim 12 wherein each of said light
2 sources is a light emitting diode (LED).

1 14. A system as in claim 12 wherein said means comprises:
2 a frame supporting said light sources such that said
3 array is a two-dimensional planar array; and
4 at least one dividing wall coupled to and extending
5 from said frame to define said plurality of sections of said
6 light sources.

1 15. A system as in claim 14 wherein each side of each said
2 dividing wall is reflective.

1 16. A system as in claim 12 wherein said means comprises a
2 frame supporting said light sources such that said array is a

3 three-dimensional array.

1 17. A system as in claim 16 wherein said three-dimensional
2 array has a shape selected from the group consisting of dome
3 shapes and pyramid shapes.

1 18. A system as in claim 12 wherein one cycle of each of
2 said cyclical on/off sequences includes a pulse of common
3 duration, and wherein said one cycle associated with each of
4 said plurality of sections is distinguishable by the timing
5 of said pulse within said one cycle.

1 19. A system as in claim 12 wherein one cycle of each of
2 said cyclical on/off sequences includes a pulse, and wherein
3 said one cycle associated with each of said plurality of
4 sections is distinguishable by the duration of said pulse
5 within said one cycle.

1 20. A system as in claim 12 wherein each of said light
2 sources produces light energy having a wavelength in the
3 range of approximately 390 nanometers to approximately 577
4 nanometers.